

Status of the Aqua Mission

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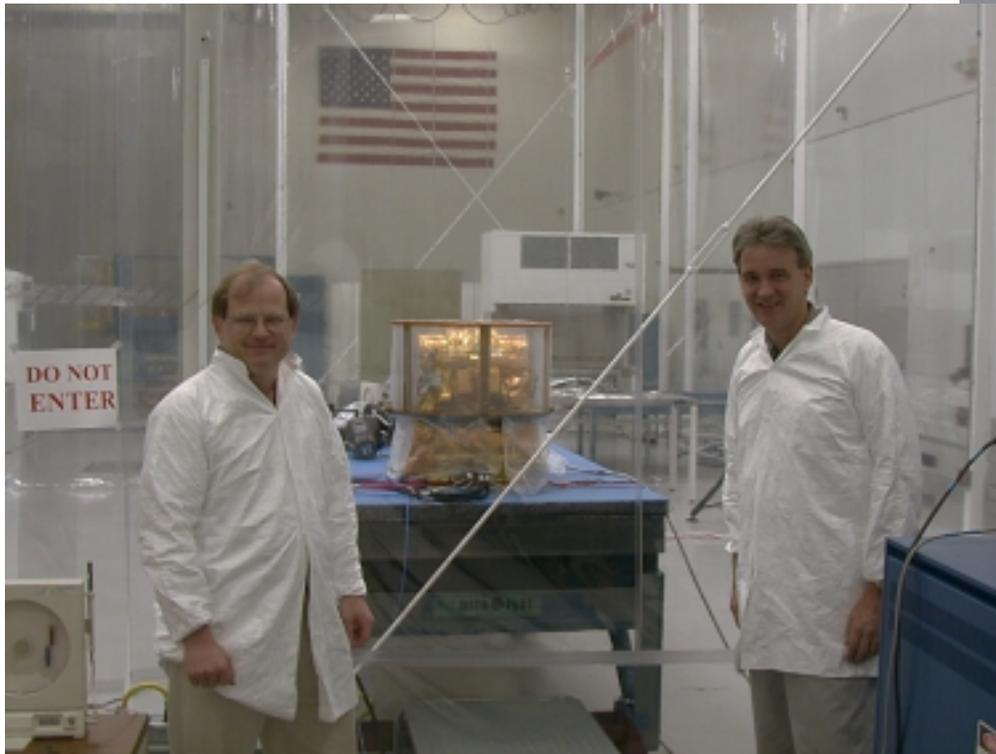
*6/7/2000 Presentation at the MODIS
Science Team meeting*

Hardware Status, p.1

- *All instruments were delivered to TRW by December 14, 1999, the last delivery being of the AMSR-E.*



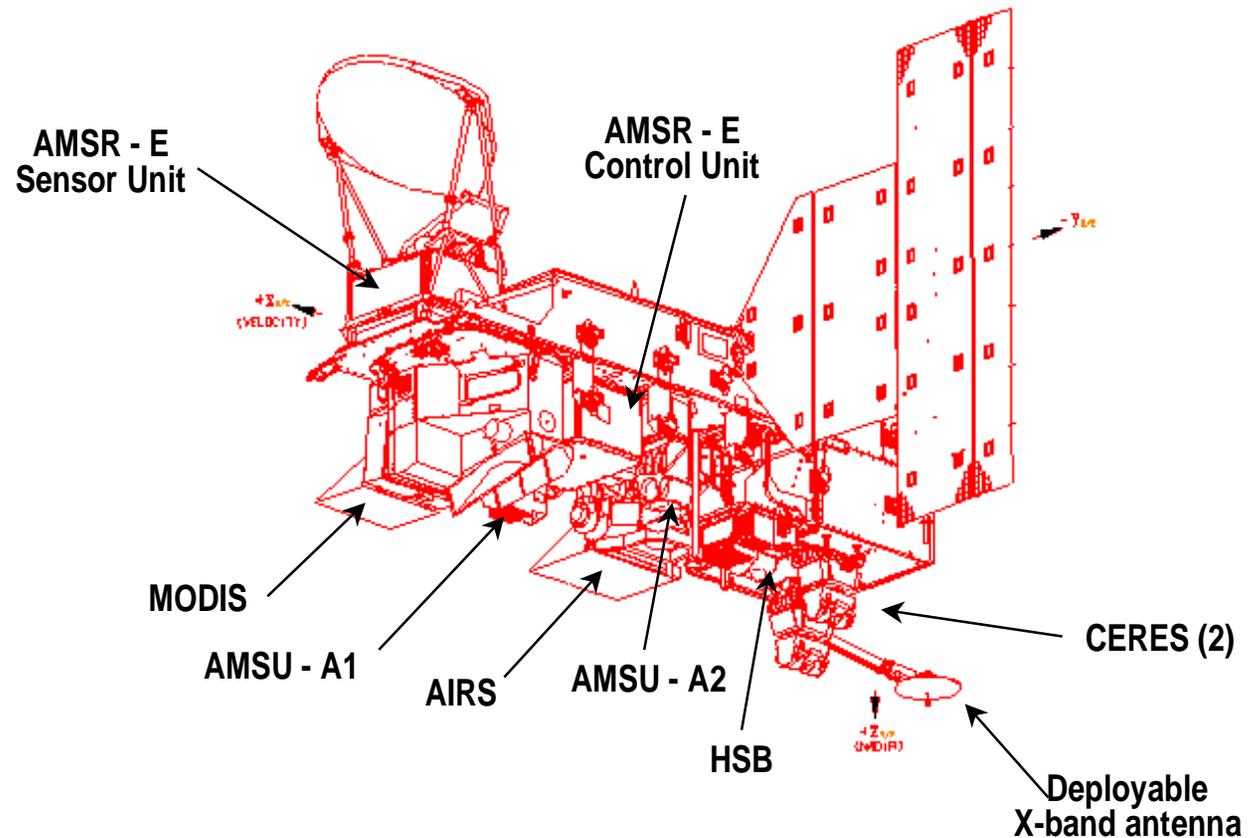
AMSR-E at TRW



CERES at TRW

Hardware Status, p.2

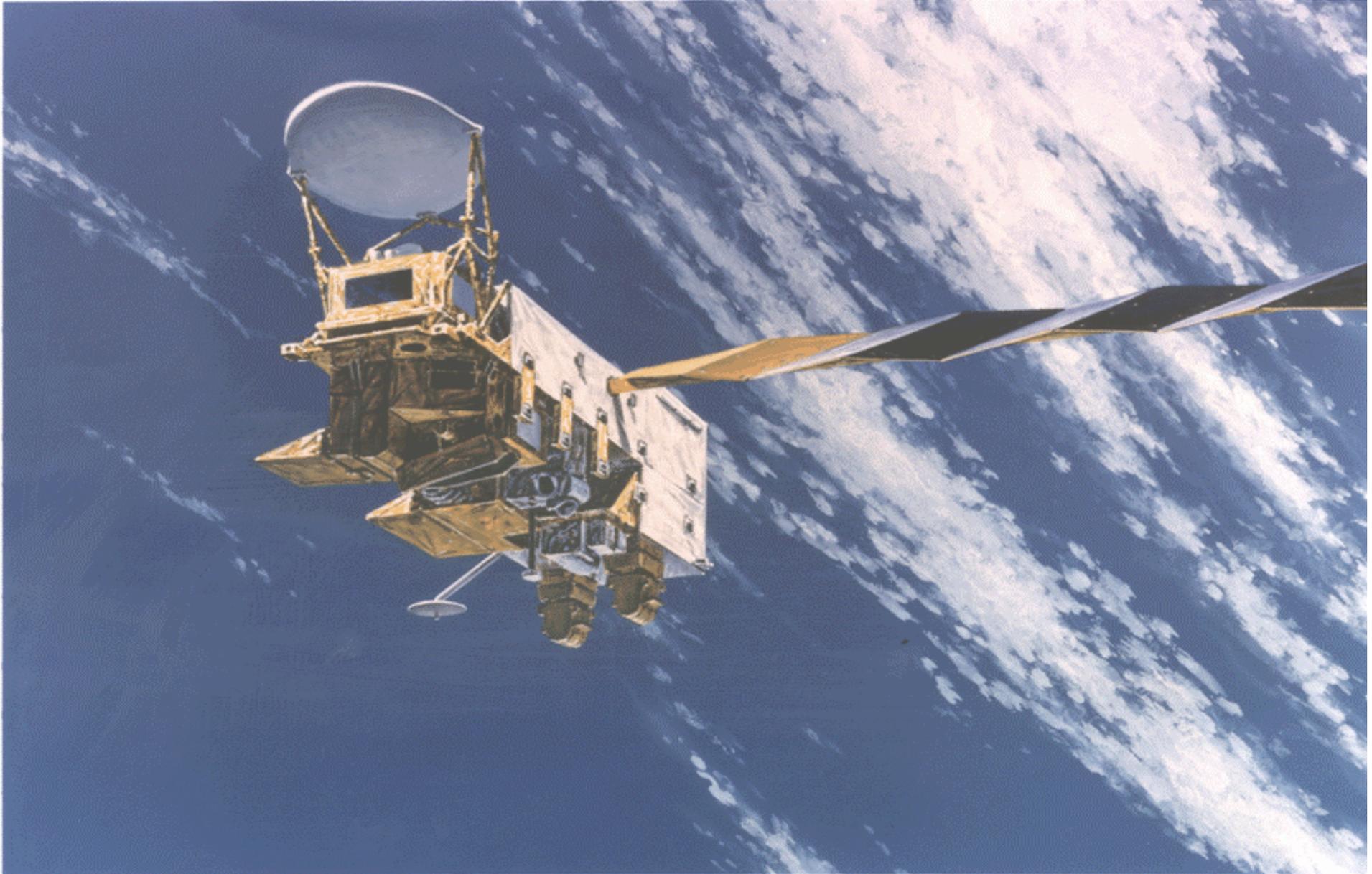
- All instruments were mechanically integrated onto the spacecraft between December 15, 1999, and February 1, 2000.



Hardware Status, p.3: Electrical integration of the instruments onto the spacecraft.

- *AMSU integration is complete.*
- *HSB integration is expected to be completed this week and AMSR-E integration next week.*
- *CERES is electrically integrated, but the flight mating of connectors will not occur until later this month.*
- *MODIS and AIRS are electrically integrated, but there are problems in the communication between the instrument and spacecraft ground support systems.*

Artist's Rendering of the Completed Spacecraft



Aqua Science Teams and Team Leaders

- *MODIS Science Team –
Vince Salomonson/GSFC*
- *CERES Science Team –
Bruce Barkstrom/LaRC*
- *AMSR-E Science Team –
Roy Spencer/MSFC*
- *AIRS/AMSU/HSB Science Team –
Mous Chahine/JPL*

Major Recent Science Activities

- *The CERES and MODIS Teams are receiving and analyzing Terra data.*
- *The AMSR-E and AIRS/AMSU/HSB ATBDs were updated and defended before a review panel on March 14, 2000.*
- *The AMSR-E at-launch algorithms have been delivered; AIRS at-launch algorithms are due in July (near-final version 1.5 was delivered in March).*
- *An NRA for AIRS/AMSU/HSB and AMSR-E validation studies was released on May 8, with proposals due on July 13, 2000.*

Data Archival and Distribution

- *AIRS/AMSU/HSB – Goddard DAAC*
- *AMSR-E – NSIDC DAAC*
- *CERES – Langley DAAC*
- *MODIS*
 - *Atmosphere/ocean products – Goddard DAAC*
 - *Land products – EDC DAAC*
 - *Snow and ice products – NSIDC DAAC*

EOS Data Products Handbook

Volume 2

ACRIMSAT
• ACRIM II

Aqua

• AIRS
• AMSR-E
• AMSR-A
• CERES
• HRS
• MODIS

Jason-1

• Poseidon-2

Landsat 7

• ETM+

Meteor 3M

• SAGE II

QuikScat

• SeaWinds

QuikTOMS

• TOMS

VCL

• MODA

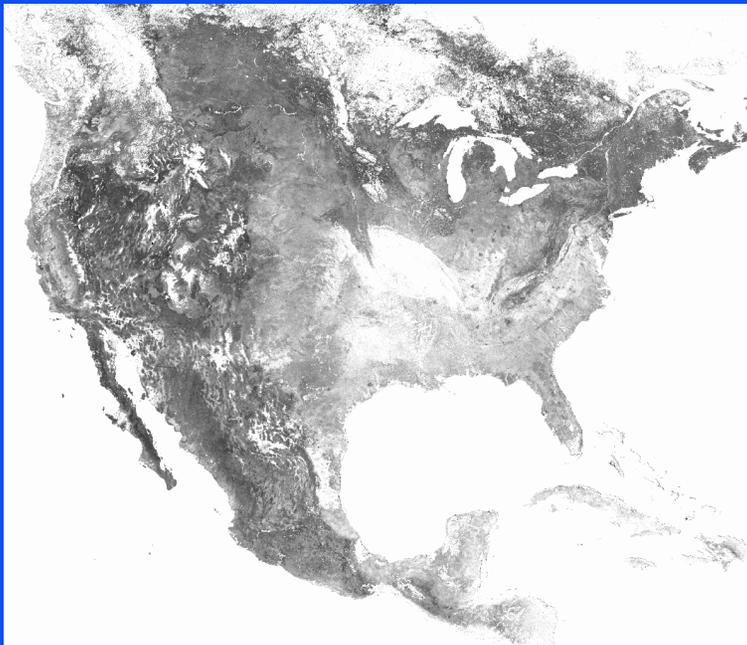


Data Products Handbook

- *Vol. 1, published in 1997, covers TRMM and Terra.*
- *Vol. 2, near completion, covers Aqua, ACRIMSAT, Jason-1, Landsat 7, Meteor 3M, QuikScat, QuikTOMS, and VCL.*
- *Vol. 3 will cover later missions.*

Data Products Handbook Product Summaries

- *Product Description*
- *Research and Applications*
- *Data Set Evolution*
- *Suggested Reading*
- *Boxed Product Summary*
- *Possible Image*



MOD 43 Product Summary

Coverage: Global land surface

Spatial/Temporal Characteristics: 1 km, 16 km, 0.5°/30-day

Key Science Applications: Biogeochemical-cycle modeling, net primary productivity estimation, global climate models

Key Geophysical Parameters: Bidirectional reflectance, spectral albedo

Processing Level: 3

Product Type: Standard, at-launch

Science Team Contact:

A. Strahler

J. P. Muller

North America albedo map for April 22 – May 7, 2000 from MOD 43

Aqua Science Working Group

- *October 15, 1999: Consensus agreement on maneuvers and formation of an Aqua Validation Working Group.*
- *April 27, 2000: Science team, validation, and timeline updates and discussion.*
- *Next meeting: September 12, 2000, GSFC, building 32, room E103/109.*
- *Possible meeting: December 21, 2000, near the launch site.*

Aqua Minimum Success Criteria

- Achieve a **safe launch** and on-orbit check-out of the Aqua spacecraft and instruments.
- Produce the first high spectral resolution global infrared spectra of the Earth.
- Obtain 1 K/1 km global root-mean-square temperature profile accuracy in the troposphere by 1 year after launch.
- Extend the improved TRMM rainfall characterization to the extra tropics.
- Produce the first global sea surface temperature daily maps under nearly all sky conditions for a minimum of one year.
- Produce large scale global soil moisture distribution for regions with low vegetation.
- **Produce calibrated global observations of the Earth's continents and ocean surfaces 150 days after the mission is declared operational.**
- **Capture and document three seasonal cycles of terrestrial and marine ecosystems and atmospheric and cloud properties.**
- Produce three sets of seasonal/annual Earth radiation budget records.
- Produce improved measurements of the diurnal cycle of radiation by combining Aqua measurements with Terra and/or TRMM measurements for months of overlap.
- Produce combined cloud property and radiation balance data to allow improved studies of the role of clouds in the climate system.
- **Capture, process, archive, and distribute Aqua data products, by 150 days after the mission is declared operational.**

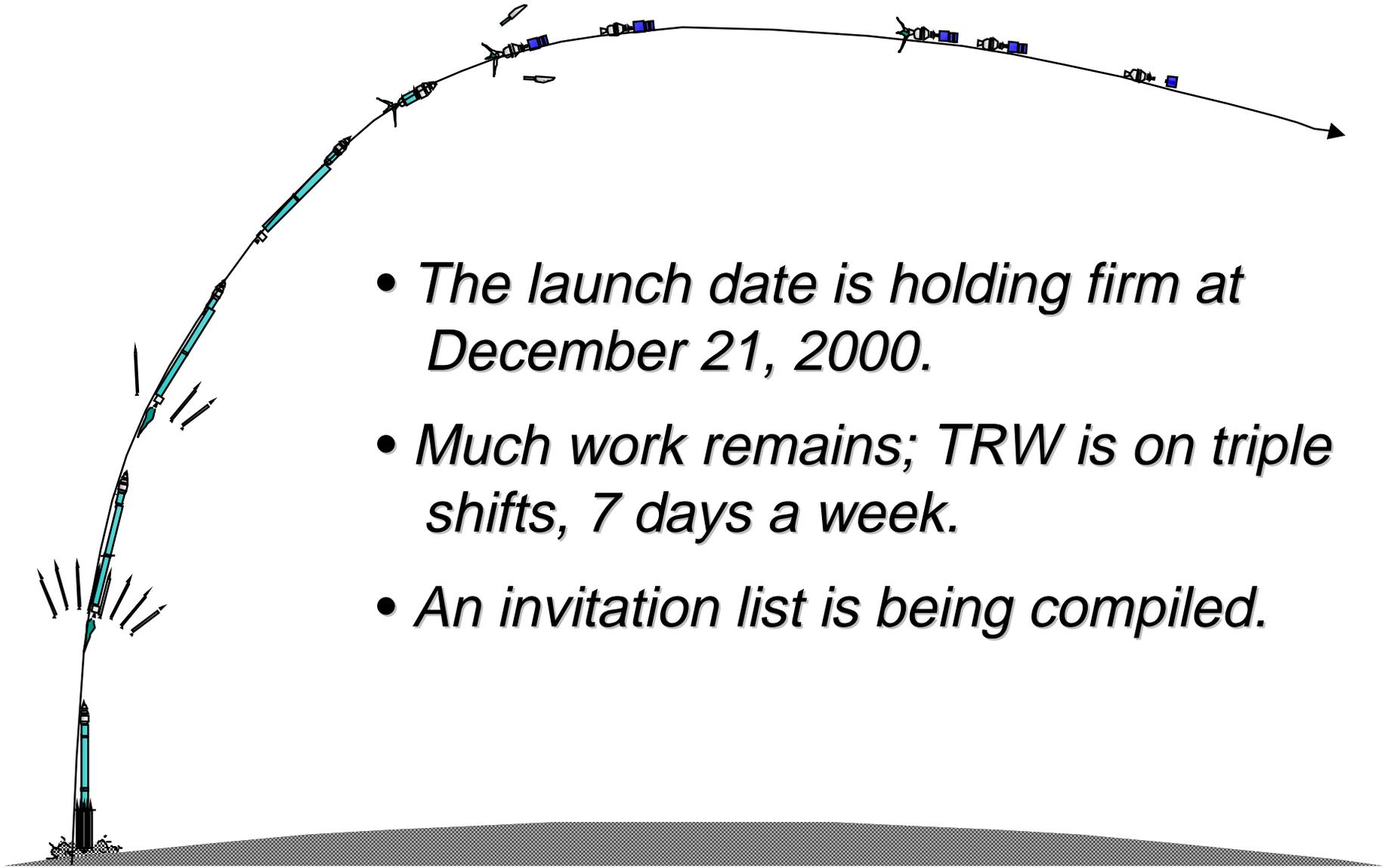
Key Current Science Issues

- *Possible replacement of two MODIS circuit boards, to improve SST retrievals.*
- *Deep-space maneuvers – Baseline remains the October 15, 1999 consensus; the AIRS Team would like to delete all maneuvers in the first two years after launch.*
- *Data processing load; can the data system handle the data flow from Terra, Aqua, and the other EOS missions?*

Current Outreach Plans

- *Earth Observatory website*
- *Aqua science website*
- *Aqua-oriented NASA Fact Sheets*
- *AMSR-E, AIRS/AMSU/HSB, and Aqua brochures*
- *Aqua Science Writers' Guide*
- *Live webcast at the launch*

Launch Status



- *The launch date is holding firm at December 21, 2000.*
- *Much work remains; TRW is on triple shifts, 7 days a week.*
- *An invitation list is being compiled.*

Aqua Souvenirs Available

- *Pins*
- *Decals*
- *Magnets*

For purchase: hats, shirts, coffee cups, at <http://eos-pm.gsfc.nasa.gov/>

